

New set of claims

Claims

1. A method of separating acids from reaction mixtures by means of an auxiliary
5 base, where the auxiliary base

A) reacts with the acid to form a salt which is liquid at temperatures at which
the desired product is not significantly decomposed while the liquid salt is
being separated off and

10 B) the salt of the auxiliary base forms two immiscible liquid phases with the
desired product or the solution of the desired product in a suitable solvent,

wherein the auxiliary base used is an alkylimidazole

15 - which has a solubility in 30% strength by weight sodium chloride
solution at 25°C of 10% by weight or less and
- whose hydrochloride has a melting point below 55°C;

20 which comprises the following steps:

a) reacting at least one 1-alkylimidazole with at least one acid in the presence
of a desired product to form a mixture of at least one salt of the
1-alkylimidazole and the desired product,

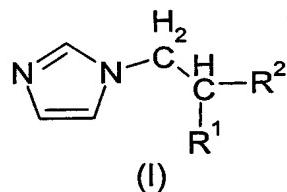
25 b) separating the salt or salts of the 1-alkylimidazole and the desired product
under conditions under which at least two separate phases of which at least
one comprises predominantly the salt or salts of the 1-alkylimidazole and at
least one other comprises predominantly desired product are formed,

30 c) adding at least one base to a phase which has been separated off from (b)
and comprises predominantly the salt or salts of the 1-alkylimidazole to
form a mixture of the liberated 1-alkylimidazole and the reaction product of
base and acid,

35 d) separating the mixture of the liberated 1-alkylimidazole and the reaction
product of base and acid under conditions under which at least two
separate phases of which at least one comprises predominantly the
liberated 1-alkylimidazole in crude form and at least one other comprises
40 the reaction product of base and acid are formed,

e) if appropriate, purifying the 1-alkylimidazole obtained in crude form and

- f) if appropriate, recirculating the optionally purified 1-alkylimidazole to step (a).
- 5 2. The method according to claim 1, wherein a 1-alkylimidazole whose hydrochloride has a melting point below 45°C is used.
- 10 3. The method according to claim 1 or 2, wherein a 1-alkylimidazole having a solubility in 30% strength by weight sodium chloride solution at 25°C of 3% by weight or less is used.
4. The method according to any of claims 1 to 3, wherein the auxiliary base used is a 1-alkylimidazole of the formula (I),



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where R¹ and R² can each be, independently of one another, hydrogen or linear or branched C₁ – C₆-alkyl, with the proviso that R¹ and R² have a total of at least 1 carbon atom and a total of not more than 6 carbon atoms.

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5. The method according to claim 4, wherein R¹ and R² are selected independently from the group consisting of hydrogen, methyl and ethyl.
- 25 6. The method according to any of the preceding claims, wherein the 1-alkylimidazole is selected from the group consisting of 1-n-propylimidazole, 1-n-butylimidazole and 1-isobutylimidazole.
7. The method according to claim 6, wherein the separation of the phases in step (b) is carried out in a phase separator.
- 30 8. The method according to claim 1 or 7, wherein the concentration of the base or bases added in step (c) is selected so that the reaction product of base and acid in step (d) is obtained in at least 15% strength by weight solution.
- 35 9. The method according to any of claims 1, 7 or 8, wherein the purification in step (e) comprises single or multiple washing, drying, filtration, stripping, distillation and/or rectification.